

109000 5222000

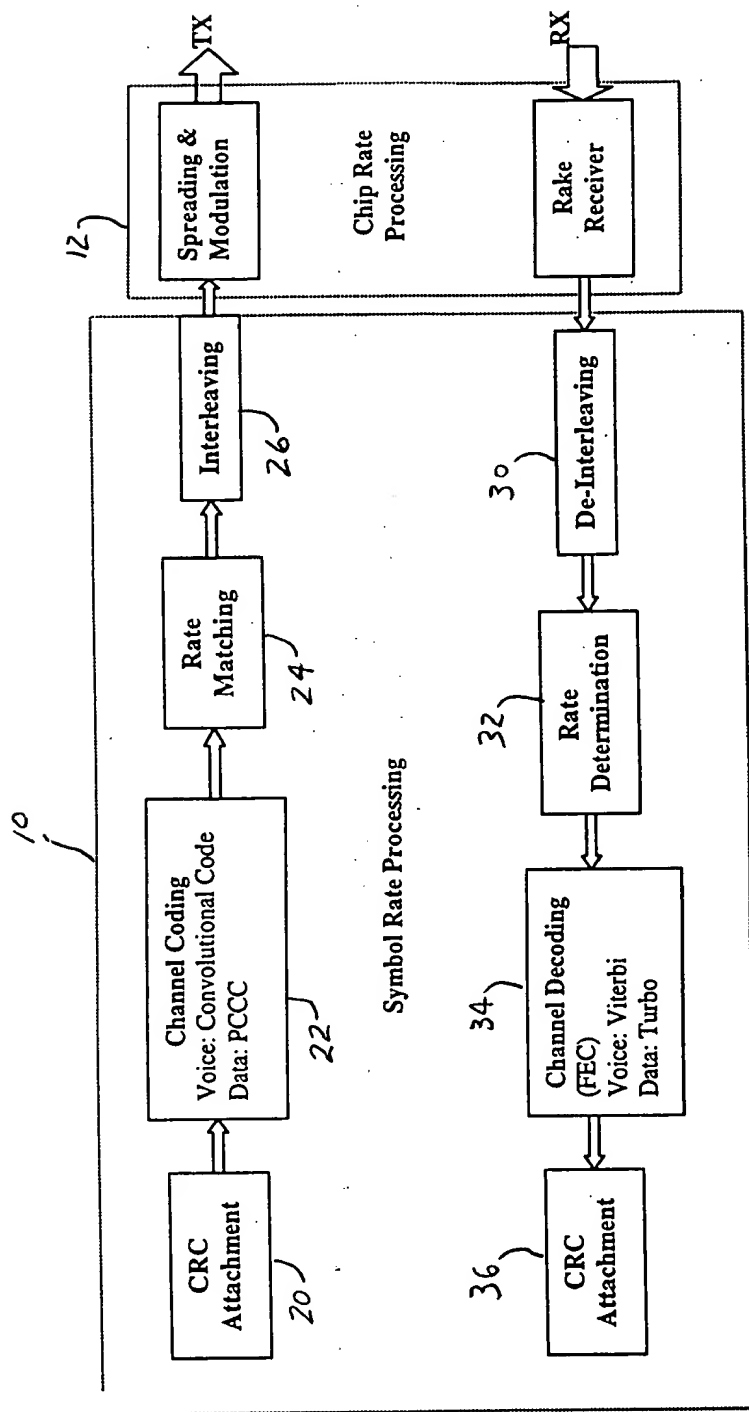


FIG. 1

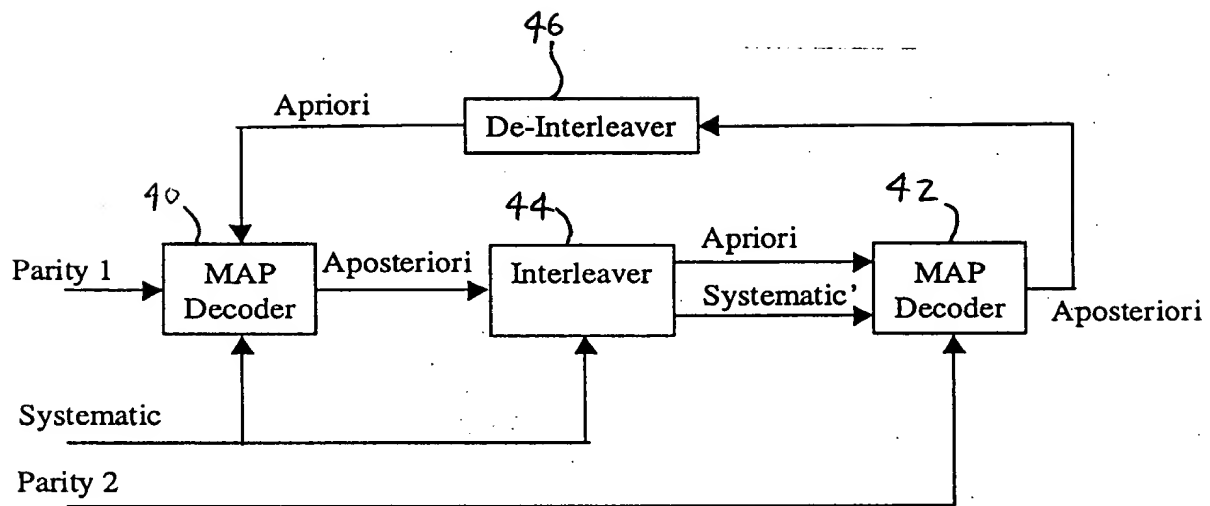


FIG. 2

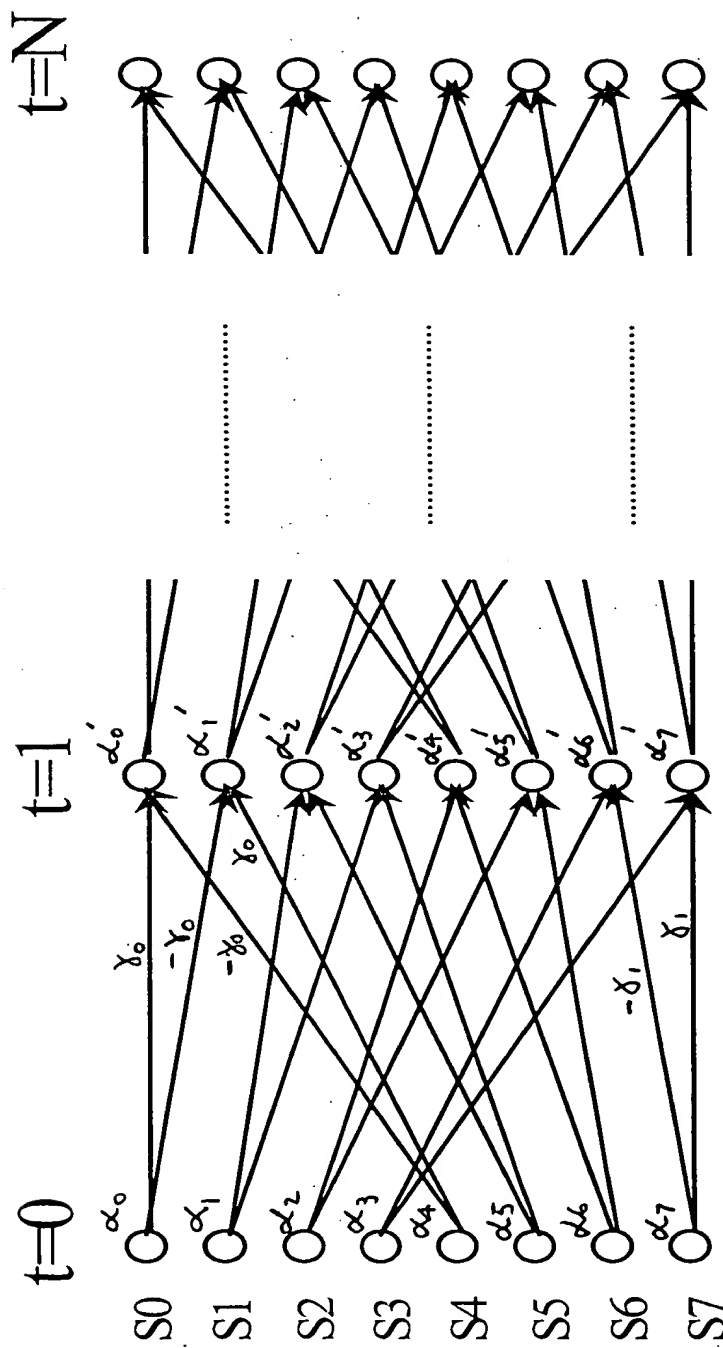


FIG. 3

$$\begin{aligned} \text{Ln} [\alpha_k(s)] = \text{MAX} \{ & \text{Ln}[\alpha_{k-1}(s')] + \text{Ln}[\gamma_k(s',s)] , \\ & \text{Ln}[\alpha_{k-1}(s'')] - \text{Ln}[\gamma_k(s',s)] \} \\ & + \text{Ln}[1 + e^{-\text{abs}(\text{Ln}[\alpha_{k-1}(s')] - \text{Ln}[\alpha_{k-1}(s'')])}] \end{aligned}$$

FIG. 4

$$\begin{aligned} \text{Ln} [\beta_{k-1}(s)] = & \text{MAX} \{ \text{Ln} [\beta_k(s')]] + \text{Ln} [\gamma_k(s', s)] , \\ & \text{Ln} [\beta_k(s'')]] - \text{Ln} [\gamma_k(s', s)] \} \\ & + \text{Ln} [1 + e^{-\text{abs}(\text{Ln} [\beta_k(s')]] - \text{Ln} [\beta_k(s'')])}] \end{aligned}$$

FIG. 5

$$\begin{aligned}
 LLR(k) = & \text{Max}_{\mathbf{S}^+} \{ \ln[\alpha(s_{k-1})] + \ln[\gamma(s', s)] + \ln[\beta(s_k)] \} \\
 & - \text{Max}_{\mathbf{S}^-} \{ \ln[\alpha(s_{k-1})] + \ln[\gamma(s', s)] + \ln[\beta(s_k)] \} \\
 & + \text{Jacobian Correction Factor}
 \end{aligned}$$

FIG. 6

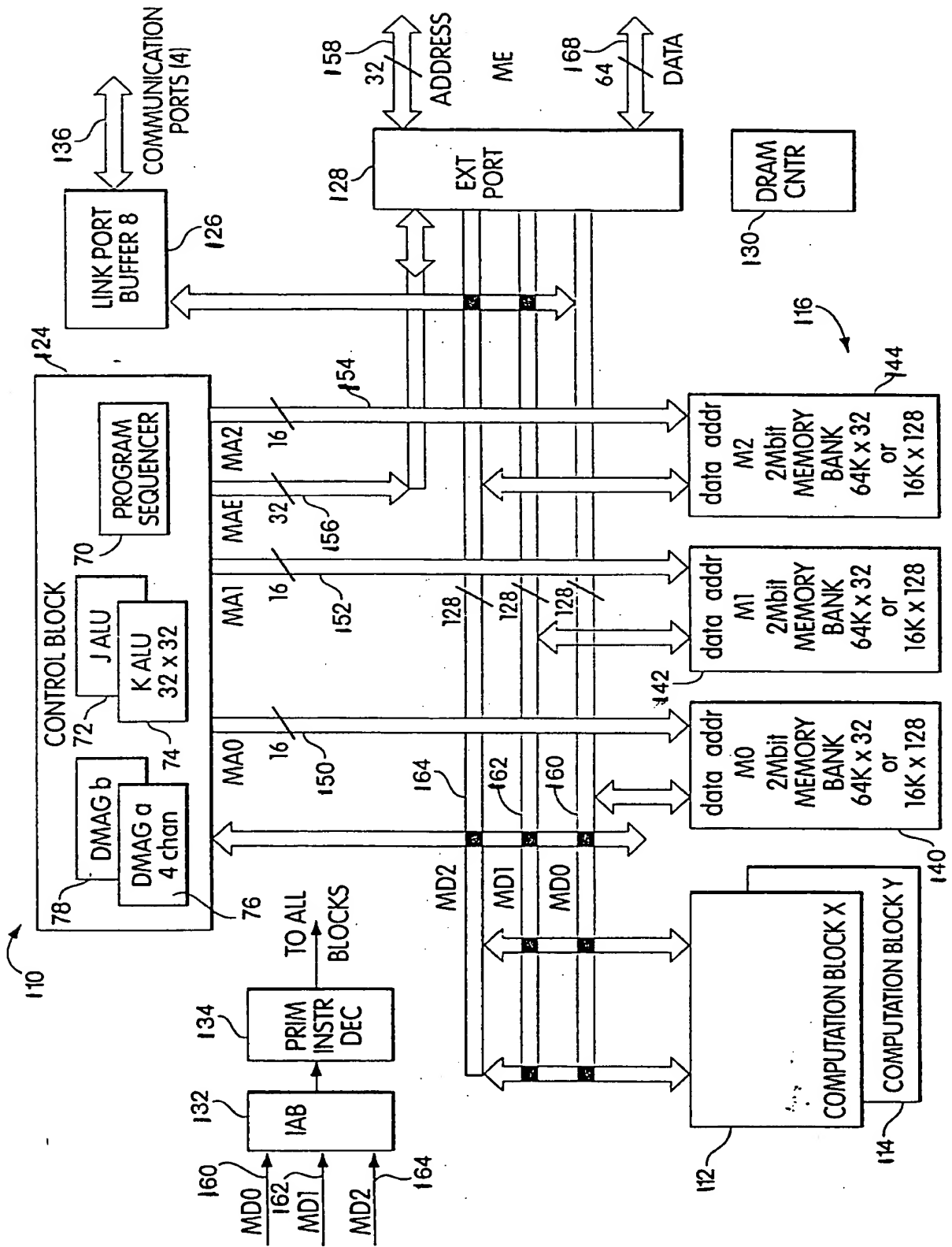


FIG. 7

FIG. 8

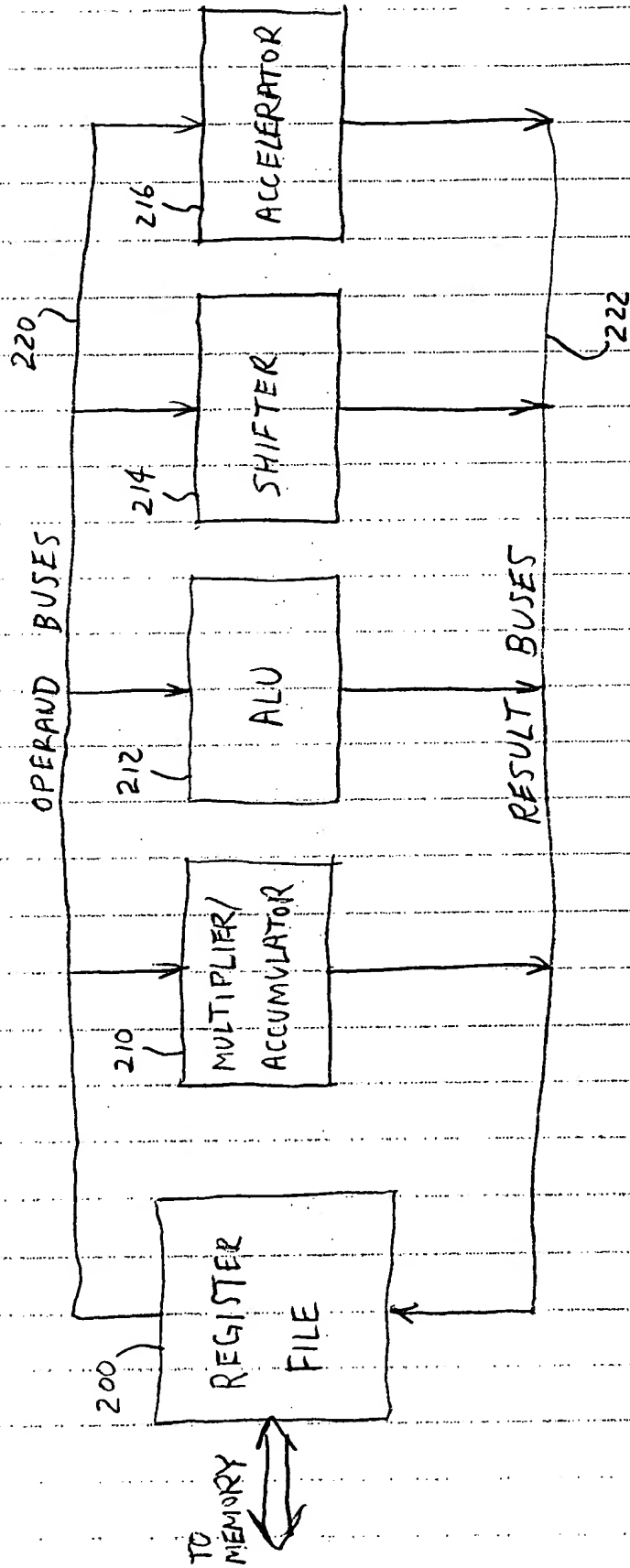


FIG. 8

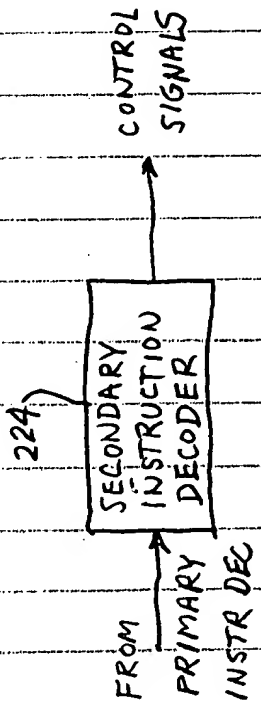


FIG. 9

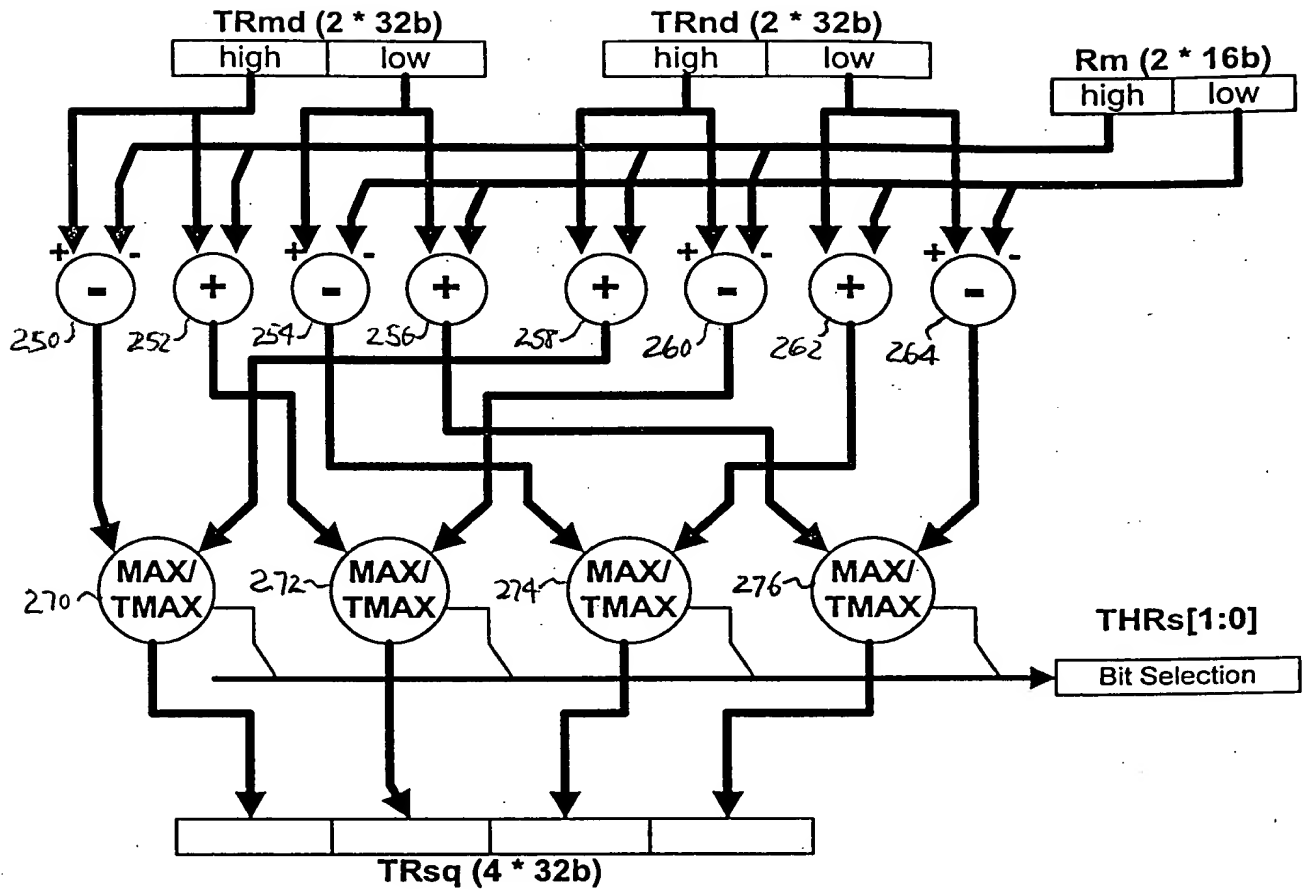


FIG. 9


```

Loop:
R7:4  TR7:4, TR11:8 = ACS(TR5:4, TR1:0, sR24); q[K22+=4]=xR3:0; q[J22-=4]=yR3:0;;
R11:8 TR15:12 = ACS(TR7:6, TR3:2, sR25); q[K22+=4]=xR7:4; q[J22-=4]=yR7:4;;

R15:12 TR15:12, TR3:0 = ACS(TR13:12, TR9:8, sR26); q[K22+=4]=xR11:8; q[J22-=4]=yR11:8;;
R3:0  TR7:4 = ACS(TR15:14, TR11:10, sR27); q[K22+=4]=xR15:12; q[J22-=4]=yR15:12;;

R7:4  TR7:4, TR11:8 = ACS(TR5:4, TR1:0, sR28); q[K22+=4]=xR3:0; q[J22-=4]=yR3:0;;
R11:8 TR15:12 = ACS(TR7:6, TR3:2, sR29); q[K22+=4]=xR7:4; q[J22-=4]=yR7:4;;

R15:12 TR15:12, TR3:0 = ACS(TR13:12, TR9:8, sR30); q[K22+=4]=xR11:8; q[J22-=4]=yR11:8;;
R3:0  TR7:4 = ACS(TR15:14, TR11:10, sR31); q[K22+=4]=xR15:12; q[J22-=4]=yR15:12;;
If hLCoE, jump loop;;

```

FIG. 11

FIG. 11

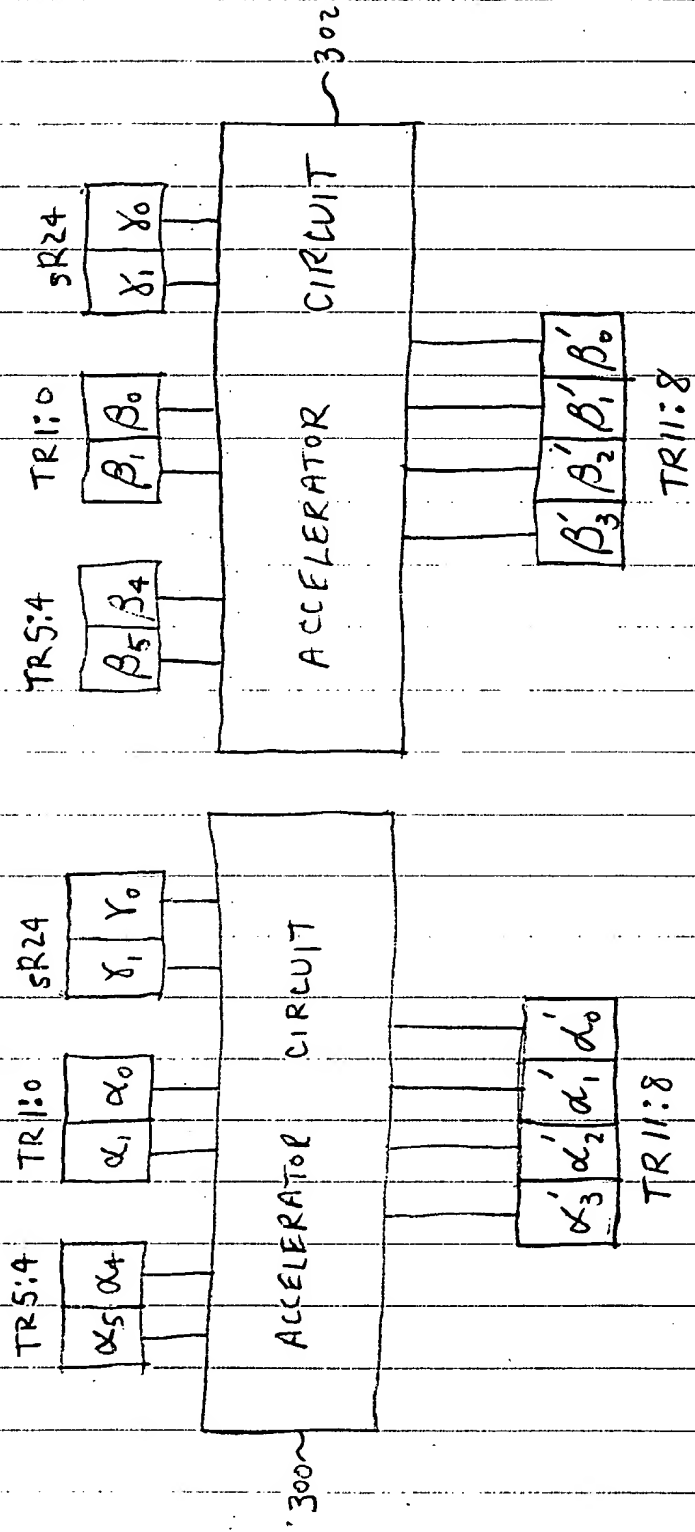
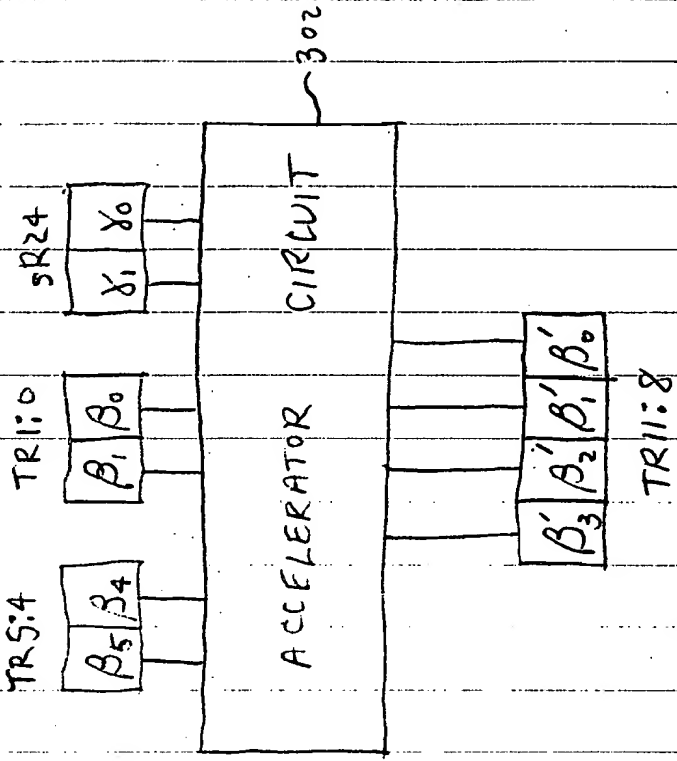


FIG. 12



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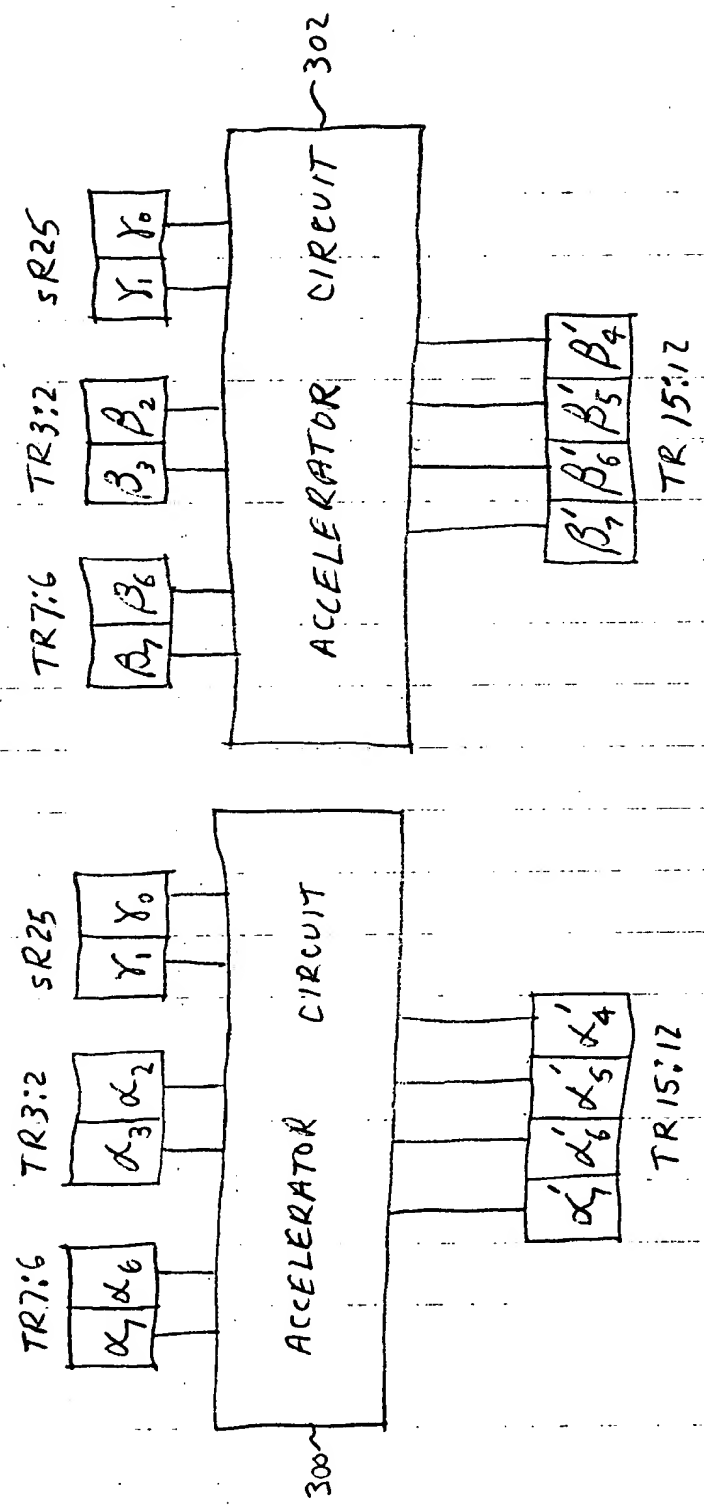


FIG. 13

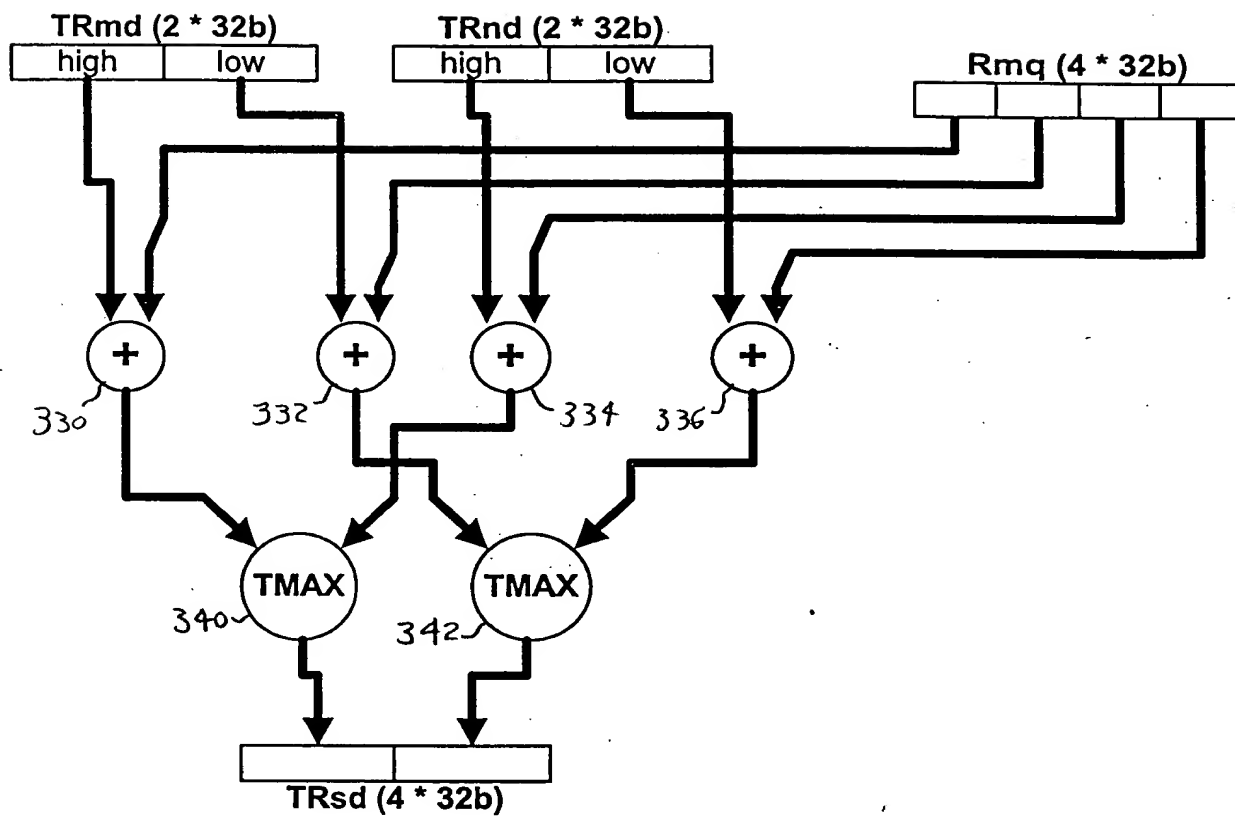


FIG. 14

FIG. 15

```
//ADD Alpha + Beta's for 0 and 1 state changes
TR9:8 = TMAX(TR1:0 + R9:8, TR3:2 + R11:10) ;;
TR11:0 = TMAX(TR1:0 + R13:12, TR3:2 + R15:14) ;;
TR13:12 = TMAX(TR5:4 + R13:12, TR7:6 + R15:14) ;;
TR15:14 = TMAX(TR5:4 + R9:8, TR7:6 + R11:10) ;;

//ADD Gamma for 0 and 1 state changes
TR5:4 = TMAX(TR9:8 + R0:0, TR13:12 + R1:1) ;;
TR12:11 = TMAX(TR11:10 - R0:0, TR15:14 - R1:1) ;;

R0 = TMAX(TR5, TR4) ;;
R1 = TMAX(TR12, TR11) ;;

R0 = R1 - R0 ;;
```

FIG. 16

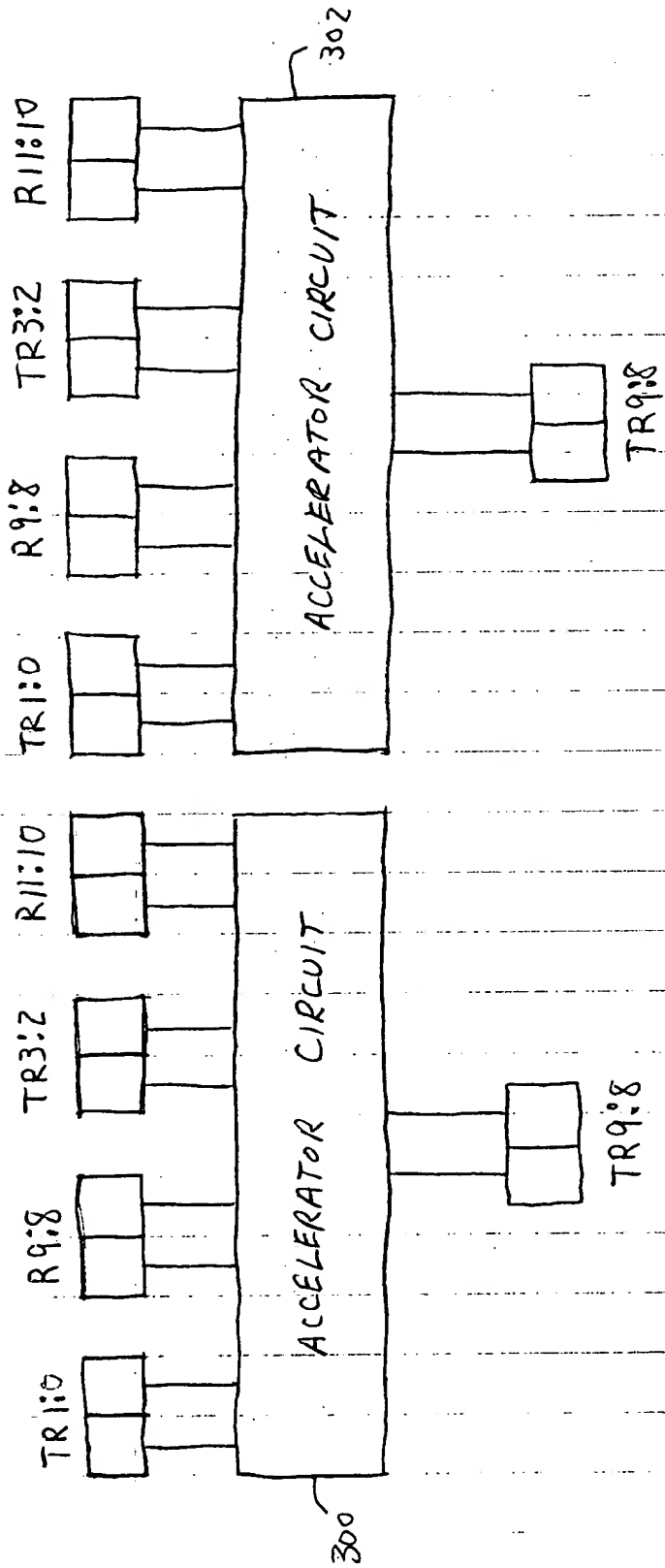


FIG. 17

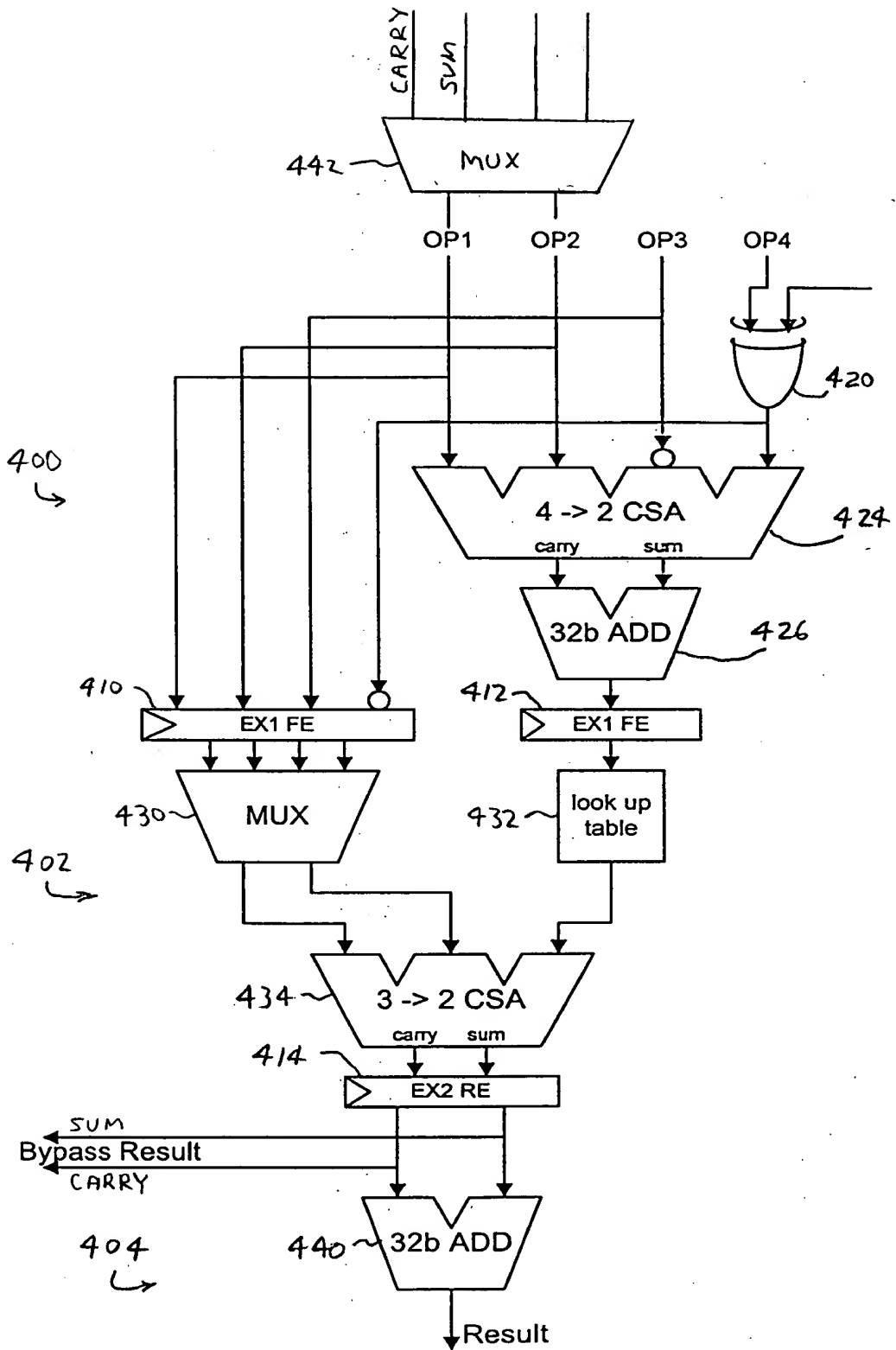


FIG. 18